

# **CONTENTS**

Conference Program

Poster Presentations

Start-Ups and Industry Exhibitors



# PROGRAM

Wednesday, 2<sup>nd</sup> April 2025

N013	N012	N010
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09:00	Opening					
09:15	Pitches by Start-Ups and Industrial Companies <b>Polytec, CMMC, 3D-Micromac</b>					
10:00	Coffee Break					
	<b>N013</b>		<b>N012</b>		<b>N010</b>	
	Composites		Thermal Spraying I		Additive Manufacturing I	
10:30	<b>Bodo Fiedler</b> <i>Hamburg University, Germany</i>	Mechanical, electrical and thermal properties of high performance composites	<b>Klaus Nassenstein</b> <i>GTV, Luckenbach, Germany</i>	Hi-End Series Coating Plants for Thermal Spray and Laser Cladding	<b>Gerald Wilhelm</b> <i>Munich University of Applied Science, Germany</i>	Kinetics of the dissolution of tungsten carbides induced by advanced GMAW hardfacing processes to produce MMC coatings
	Keynote Speech I		Keynote Speech II		Keynote Speech III	
11:00	<b>Andreas Todt</b> <i>Fraunhofer ISC, Munchberg, Germany</i>	Innovative tube structures for small satellites	<b>Michél Hauer</b> <i>Fraunhofer IGP, Rostock, Germany</i>	Novel amorphous and partially amorphous HVOF-sprayed coating systems for use in cryogenic environments	<b>Max Dominik Mierzwa</b> <i>RWTH Aachen, Germany</i>	Achieving multi-directional Directed Energy Deposition with Plasma Arc Welding, using Surface-Scan-based Bead Shape Fits for 3D path planning
11:20	<b>Alexander Delp</b> <i>Dortmund University, WPT, Germany</i>	Characterization of moisture and temperature dependent forming behavior of the all-cellulose composite vulcanized fiber	<b>Ingor Baumann</b> <i>Dortmund University, WT, Germany</i>	Influence of the coating parameters on the tribomechanical properties of cold sprayed IN 718 coatings	<b>Ying Zhen</b> <i>NMB Bayreuth, Germany</i>	Development of an environmentally friendly production route for carbide milling tools printed using Fused Filament Fabrication

Industry Exhibition

<sup>D</sup> presentation will be held in German, PP-slides are in English



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N013	N012	N010
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	N013		N012		N010			
11:40	<b>Jonas Stiller</b> CUT, Lightweight Structures / Polymer Technology Group	Thermoset injection molding with lost cores for improved freedom of design in shaping of C/C-SiC via LSI	<b>Lukas Martin Johann</b> <i>RWTH Aachen, Germany</i>	Novel criterion for Wire-Arc Spraying process stability	<b>Till Kirchhoff</b> <i>Clausthal University of Technology, Germany</i>	Eisenaluminide für den Verschleißschutz	Industry Exhibition	
12:00	Lunch							
	Chemical/ Galvanic Surface Technology I		Thermal Spraying II		Additive Manufacturing II			
13:00	<b>Markus Guttman</b> <i>KIT, Germany</i>	Galvanoformung – Schnee von gestern oder Innovation für morgen? <sup>D</sup>	<b>Ondřej Kovářik</b> <i>Czech Technical University in Prague, Czechia</i>	Cold spray repair: case study for church bells restoration	<b>Olaf Keßler</b> <i>Rostock University, Germany</i>	Wärmebehandelbarkeit einer Aluminiumlegierung AISi10Mg nach additiver Fertigung durch pulverbettbasiertes Schmelzen mittels Laserstrahl		
	Keynote Speech IV		Keynote Speech V		Keynote Speech VI			
13:20	<b>Carsten Bonnekoh</b> <i>KIT, Germany</i>	High-heat-flux divertor mock-ups for fusion power plants realized by the aid of galvanic deposited interlayers	<b>Šárka Houdková</b> <i>VZU Plzeň, Czechia</i>	The Potential of Laser Surface Texturing as a Substrate Pretreatment Method for Thermal Spraying	<b>Jonas Wölfel</b> <i>NMB, Germany</i>	Entwicklung einer neuen Generation von Ti-Fe-Werkstoffen durch In-situ-Legieren mittels drahtbasiertem Laserauftragschweißen		
13:40	<b>Mehri Hashemzadeh</b> <i>Innovent Jena, Germany</i>	Influence of oxalate and citrate Additives on soft-sparking occurrence in the PEO Process of Al6082 Alloy	<b>Eduard Drehband</b> <i>Dortmund University, WT, Germany</i>	Development of a new twin-wire arc spraying process for improved processing of wires with low melting points	<b>Karsten Wandtke</b> <i>BAM Berlin, Germany</i>	Analyse der mechanischen Eigenschaften und Mikrostruktur additiv gefertigter hochfester Stahlbauteile		
14:00	<b>Igor Danilov</b> <i>CUT, Micromanufacturing Group</i>	Simulation model of the barrier layer formation on aluminium at the initial stage of plasma electrolytic oxidation	<b>Manuel Rodriguez Diaz</b> <i>Hannover University</i>	Application of high reactive metals in oxygen-free environments	<b>Matthias Schäfer</b> <i>Dresden University, Germany</i>	Adaptive Additive Fertigung		

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N013	N012	N010
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	N013		N012		N010			
14:30	Coffee Break							Industry Exhibition
	Nickel Alloys		Hydrogen Technology		Additive Manufacturing III			
14:50	<b>Anton Salomon</b> <i>Fraunhofer IFAM, Dresden, Germany</i>	Surface modification of Nickel foams for different applications	<b>Robert Vaßen</b> <i>Forschungszentrum Jülich, Germany</i>	Development of protective coatings for porous transport layers in PEM electrolyzers	<b>Ismail Özdemir</b> <i>CUT, IWW</i>	FAST-sintered Cf /Cu Composites: Wear and Corrosion Characteristics		
	Keynote Speech VII		Keynote Speech VIII		Keynote Speech IX			
15:20	<b>Muhammad Ali Javed</b> <i>CUT, Applied Thermodynamics Group</i>	Thermography of thin NiTi wires during operation in an actuator based on accurate emissivity measurements	<b>Andreas Zaffora</b> <i>Palermo University, Italy</i>	Functionalization of Porous Transport Layers for Alkaline Water Electrolysis by Electrodeposition	<b>Fabian Dittrich</b> <i>BTU Cottbus, Germany</i>	Challenge of an Inline Coupled Wire Arc Additive Manufacturing (WAAM) Process with Quenching and Partitioning (QP) Treatment		
15:40	<b>Sepideh Ghorbanalipour</b> <i>CUT, Micromanufacturing Group</i>	Influence of the cutting speed in turning and force in subsequent diamond smoothing of pure nickel on the surface properties	<b>Sebastian Kaiser</b> <i>BAM Berlin, Germany</i>	Evaluation of welding on in-service pressurized hydrogen pipelines by component testing	<b>Jorge Eduardo Tapia-Cabrera</b> <i>Munich University of Technology, Germany</i>	Study of the overlapping factor for WAAM deposition of a defect free multi material wall over nodular cast iron for remanufacturing		
16:10	YOUNG SCIENTISTS Poster Session (N012)							
17:25	Coffee Break							

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Wednesday, 2<sup>nd</sup> April 2025

N013	N012	N010
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	N013		N012		N010		
	Surface Characterization		Thermal Spraying III		Process Control		
17:45	<b>Tom Marquardt</b> <i>Muehlhan AG, Hamburg, Germany</i>	Influence of the measuring method on the determination of the fractal dimensions of blasted steel surfaces	<b>Frank Gärtner</b> <i>HSU Hamburg, Germany</i>	Bonding and Layer Formation in Cold Gas Spraying and Aerosol Deposition	<b>Andreas Gester</b> <i>CUT, IWW</i>	Development of process control for ultrasonic metal welding of aluminum automotive wires based on machine learning	Industry Exhibition
18:05	<b>Alexander Schnettger</b> <i>University Hannover, Germany</i>	Physical-metallurgical investigations for the in-situ production of Al- and Zn-based thin films	<b>Ondřej Chocholátý</b> <i>VZU Plzeň, Czechia</i>	Advancements in Cold Spray Technology for Industrial and Aerospace Repair Applications	<b>Marcin Korzeniowski</b> <i>Wroclaw University, Poland</i>	Application of Image Processing Algorithms for Quantitative Analysis of Cracks in Plasma-Sprayed Hadfield Steel Coatings	
18:25	End of the Lecture Program						
	Evening Event (Bar Ausgleich, Mensa <sup>55</sup> )						
19:00	Dinner						
20:00	<b>Barbara Waske</b> <i>Chemnitz Industrial Museum</i>		<i>Tales of Transformation</i> – Transformation of the industrial city of Chemnitz with the focus on the last 30 years, compared to five European industrial cities.				
until 23:00	Networking and Best Poster Awards						

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# PROGRAM

Thursday, 3<sup>rd</sup> April 2025

N013	N012	N010
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Plenary Presentations I (N012)						
9:00	<b>Lukas Wojarski</b> <i>Dortmund University of Technology, WT, Germany</i>		Digital labs in lectures and exams			
9:15	<b>Sebastian Härtel</b> <i>BTU Cottbus, Germany</i>		From chip waste to high-performance components - an approach that combines DED processes and energy-efficient recycling strategies			
	N013		N012		N010	
	Human-Centered Digitalization		Chemical/ galvanic surface technology II		Joining / Welding	
09:40	<b>Norbert Huchler</b> <i>ISF Munich, Germany</i>	Human-centered design as a value-adding factor. In search of sustainable human-technology relations.	<b>Wolfgang Hansal</b> <i>EGM Institute, Wiener Neustadt, Austria</i>	Hybride Post-Processing of 3D-printed metal parts involving dynamic electrochemistry	<b>Holger Letsch</b> CUT, Welding Engineering Group	Beeinflussung der Festigkeit diffusionsgefügter Verbindungen durch eine dynamisch modulierte Prozesskraft und den Einsatz mikro- und nanoskaliger Zwischenschichten
10:00	<b>Isabel Kreißig</b> <i>Fraunhofer IWU, Chemnitz, Germany</i>	The Finishing Touch A Human Centred Approach to the Development of Automation for Abrasive Machining and Formalisation of Expert Knowledge on Surface Roughness	<b>Serhatcan Berk Akçay</b> <i>Karadeniz Technical University, Turkey</i>	Effects of Coating Bath Composition on the Properties of Electroless Copper Coated SiC Powders	<b>Martin Neumann</b> CUT, Welding Engineering Group	Beurteilung der Schweißeignung hochfester Feinkornbaustähle unter Berücksichtigung der Herstellrouten
10:20	<b>Tina Morgenstern</b> <i>CUT, IWW</i>	Supporting energy-efficient behavior through human-centered digitalization in industrial manufacturing: A transdisciplinary approach	<b>Temel Varol</b> <i>Karadeniz Technical University, Turkey</i>	Effects of Electroless Copper Coating on the Properties of Copper-Silicon Carbide Composite Powders Produced by Mechanical Milling	<b>Dmitrii Ozherelkov</b> <i>CUT, IWW</i>	Influence of Contamination and Passivation on the Ultrasonic Welding Performance of Aluminum Stranded Wires
10:40	Coffee Break and Poster Session					

Industry Exhibition



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Thursday, 3<sup>rd</sup> April 2025

N013	N012	N010
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	N013		N012		N010	
	Thermal Spraying IV		Materials Design and Characterization		Joining / Brazing	
11:10	<b>Lutz-Michael Berger</b> <i>Fraunhofer IKTS, Dresden, Germany</i>	Thermally sprayed hardmetal coatings - current situation and path of future developments	<b>Heinz Werner Höppel</b> <i>FAU Erlangen, Germany</i>	Tailoring Mechanical Properties of Ti-6Al-4V through new Short-Time Heat Treatment Strategies	<b>Matthias Türpe</b> <i>Mahle, Stuttgart, Germany</i>	Veni, vidi, consideravi – joining task instead of process parameters
	Keynote Speech X		Keynote Speech XI		Keynote Speech XII	
11:40	<b>Alexander List</b> <i>HSU Hamburg, Germany</i>	Breaking the Oxide Barrier: New Approaches towards Aluminum-Aluminum Compound Casting	<b>Luca Alexander Koch</b> <i>Dortmund University, WPT, Germany</i>	Microstructure analysis and fatigue assessment of a thermo-mechanically aged austenitic pipeline component	<b>Cheng Zhang</b> <i>Mahle Stuttgart, Germany</i>	Considerations on Joining Technology of Low-Temperature Sintering by Nano-Ag Pastes
12:00	<b>Kerstin Horn</b> <i>Innovent Jena, Germany</i>	Robuste kaltplasmagespritzte antimikrobielle Beschichtungen mit definierter Porosität	<b>Benjamin Bohne</b> <i>CUT, IWW</i>	Effect of plane strain loading direction and strain rate on microstructure, texture and mechanical properties of a mild steel	<b>Sophie Vinke</b> <i>RWTH Aachen, Germany</i>	Joining of Stainless Steel with a novel Fe-based Amorphous Brazing Foil
12:20	<b>Aleksandra Małachowska</b> <i>Wroclaw University, Poland</i>	Microstructure and mechanical properties of Hadfield steel deposited with APS	<b>Mücahit Kocaman</b> <i>Karadeniz Technical University, Turkey</i>	Effects of Milling Ball Diameter on the Morphology and Particle Size of Dendritic Copper Powders	<b>Alexa Nebel</b> <i>Dortmund University of Technology, WT, Germany</i>	Vacuum brazing of NiTi shape memory alloys using Ag26.5Cu3Ti
	<b>Plenary Presentation II (N012)</b>					
12:50	<b>Shrikant Joshi</b> <i>University West, Trollhättan, Sweden</i>	tba				
13:20	<b>Closing Remarks and Snacks</b>					
	<b>LAB TOUR</b>					

Industry Exhibition



## POSTER



UNIVERSITY OF TECHNOLOGY  
IN THE EUROPEAN CAPITAL OF CULTURE  
CHEMNITZ

- P01** Stephanie Stöckel *CUT, Production Measurement Technology Group*  
*New parameter for describing the spatial distribution of characteristic features using the example of blasted surfaces*
- P02** Jan Tomastik *Palacký University Olomouc, Czechia*  
*Evaluation of mechanical and tribological properties of TixCryN coatings*
- P03** Sebastian Weis *Zwickau University of Applied Sciences, Germany*  
*Metal Powder Production by Wire Arc Atomization*
- P04** Vasilii Fedorov *Zwickau University of Applied Sciences, Germany*  
*Development of MIG-TIG hybrid brazing for galvanised steel sheets*
- P05** Susan Conze *Fraunhofer IKTS, Dresden, Germany*  
*Electrical insulation properties of APS oxide coatings*
- P06** Manuel Pinho Ferreira *Dortmund University, WT, Germany*  
*Online diagnostics for internal diameter (ID) HVOF spray processes*
- P07** Mark Dennis Kensy *Dortmund University, WT, Germany*  
*Investigation of the Axial Injection of Cermet Powders Into the Primary Gas Flow of the Twin-Wire Arc Spraying Process*
- P08** Kay Schäfer *CUT, Lightweight Structures / Polymer Technology Group*  
*Impact Compressive Properties of Polyurethane Foams with 3D Continuous Fibre Reinforcement*
- P09** Jonas Zajaczkowski *Dortmund University of Technology, WT, Germany*  
*High-Pressure Cold Gas Sprayed cBN-Copper Coatings for Improved Grinding Disc Durability and Performance*
- P10** Biswal Pratidhwani *Fraunhofer IGP, Rostock, Germany*  
*Thermally Sprayed Coating for Soilless Cultivation (Proof-of-Concept for using Recycled Feedstocks in future)*
- P11** Christin Reuter *CUT, IWW*  
*Cognition-Based Information Visualization for Atmospheric Plasma Spraying: The Influence of Expertise on Gaze Behavior*
- P12** Marek Hebda *Cracow University of Technology, Poland*  
*Evaluation of copper powders for the Binder Jetting 3D printing process.*
- P14** Lukáš Václavek *Palacký University Olomouc, Czechia*  
*Characterization of mechanical properties of CrN-TiN layers deposited by advanced sputtering methods*

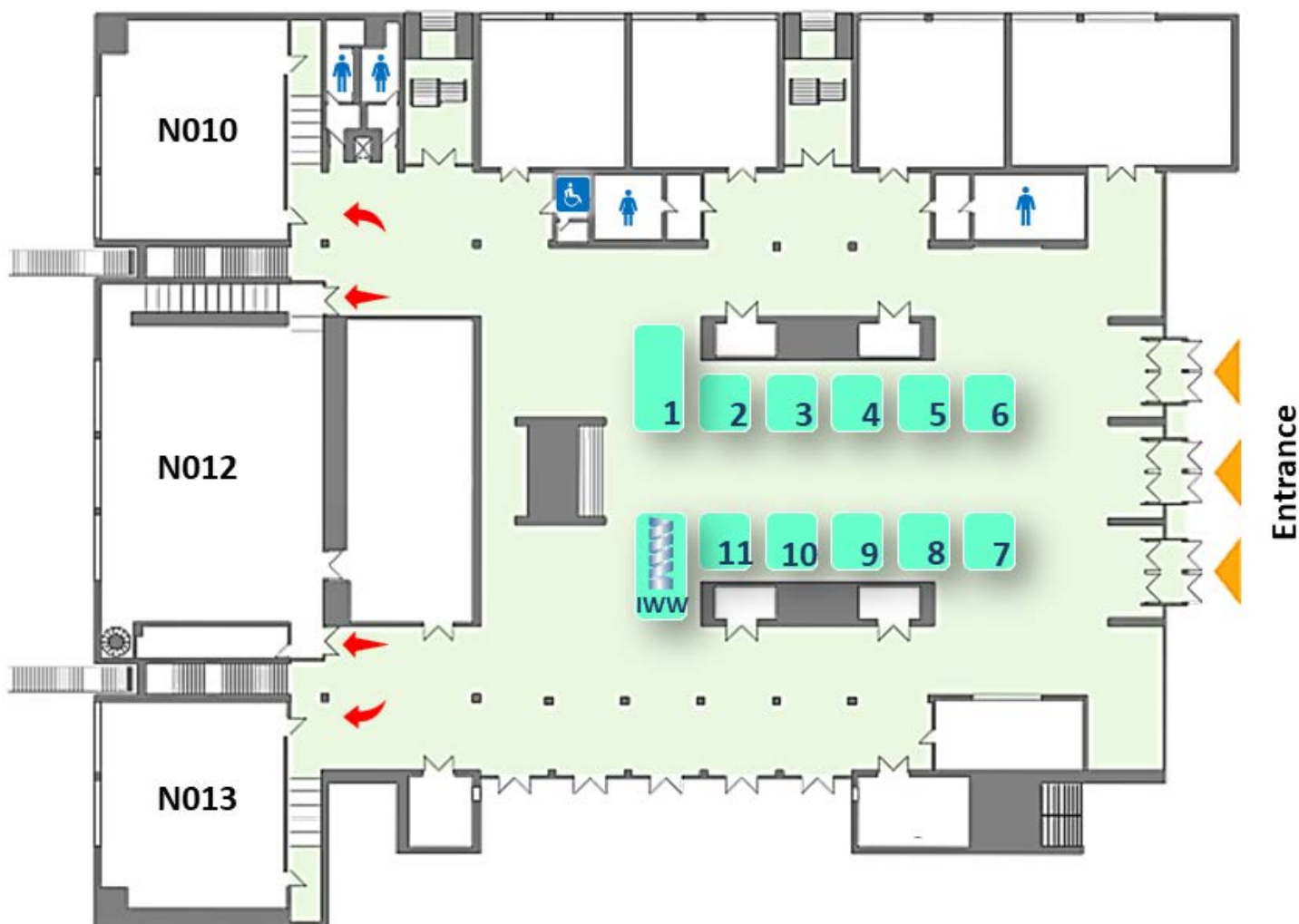




# INDUSTRY EXHIBITION



TECHNISCHE UNIVERSITÄT  
IN DER KULTURHAUPTSTADT EUROPAS  
CHEMNITZ



## Industry Exhibitors:

1	<b>Zeiss</b>
2	<b>Netzsch Gerätebau</b>
3	<b>Polytec</b>
4	<b>Kulzer</b>
5	<b>Cloeren Technology</b>
6	tba

## Start-Ups

7	<b>CMMC</b>
8	<b>3D-Micromac</b>
9	tba
10	tba
11	tba

